EXHIBIT 163

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

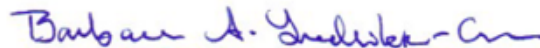RICHARD KADREY, an individual, et al.

v.

META PLATFORMS, INC., a Delaware
corporation;

Defendant.

Case No. 3:23-cv-03417-VC

SECOND REBUTTAL EXPERT REPORT OF BARBARA FREDERIKSEN-CROSS (TO THE
"REBUTTAL REPORT OF DAVID R. CHOFFNES, PH.D., FEBRUARY 26, 2025")

Signed in Hubbard, Oregon on April 1, 2025

Barbara Frederiksen-Cross

place.[54] This data (which I understand was produced in discovery in this case on March 19, 2025 pursuant to a limited reopening of discovery) indicates that, on average, the amount of data uploaded from these AWS instances to the Internet would not have exceeded approximately 30% of the amount of data that these AWS instances downloaded from the Internet in connection with the April to July 2024 torrent download for Internet Archive, ZLib, and LibGen. On average, peers could have received from Meta, approximately 30% of the data that Meta downloaded, further indicating that it was unlikely that Meta uploaded any of the Plaintiffs' works (or any usable portion of them) to peers during either the seeding or the leeching phases.

61. In the next section, I discuss another mischaracterization of the BitTorrent protocol in the Choffnes Report, specifically the introduction of his theory that BitTorrent's "holepunch extension" would provide a method for leeching peers to bypass Meta's network configuration.

62. I note that during the deposition of Dr. Choffnes, he testified that he did not have the AWS data and other documents at the time he submitted his report, and stated that if given an opportunity, he would update his report and would supplement his Bernoulli experiment with this information.[55] Dr. Choffnes did not specify how he would change his opinions or his models based on this evidence if allowed, and as such, I cannot respond to any such opinions at this time. In the event Dr. Choffnes is allowed at a later date to again supplement his expert analysis, I reserve my right to respond to the extent allowed by the Court.[56]

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[54] Table 3 of my Rebuttal Report reported a total download of 267.4 TB across LibGen Non-Fic, IA and ZLib in 2024. A closer inspection of the file lists for IA and ZLib revealed that they contain both the .tar files and the individual files that exist within the same .tar files. These .tar files were counted towards the calculated total. After deduplicating by removing all .tar files, we obtain deduplicated total amounts of 112.9 TB for IA (as opposed to 193.5 TB), and 49.17 TB for ZLib (as opposed to 63.6 TB). I provide a revised version of Table 3 from my Rebuttal Report in Appendix A below. This does not change the piece level percentages presented in my rebuttal report.

[55] Choffnes Depo., 128:1-17, 132:3-133:18.

[56] Dr. Choffnes also testified during his deposition that that the total amount of data downloaded between April 5, 2024, and June 21, 2024, was 270 TB downloaded, and 62 TB uploaded. This

C.   Holepunch Extension Does Not Allow Unsolicited Peers to Connect with Meta

63. The Choffnes Report attempts to brush off the significance of Meta's firewall protections that are intended to block inbound connections unless Meta had previously and affirmatively initiated a connection with the receiving peer.[57] The Choffnes Report states that every home router firewall shares with Meta this "standard" behavior of blocking unsolicited inbound connections. This fails to recognize that instead of a single standard there are multiple ways firewalls can work. The Session Traversal Utilities for NAT ("STUN") protocol specification discusses the various ways that Network Address Translation ("NAT") firewall implementation can work and describes four such ways.[58] The effect of different firewall setups is also explained in the stackoverflow.com post referenced by the Choffnes Report: "Also, if the [sic] neither NAT is a full-cone (or let's say, p2p-friendly) it may not be possible for the peers to connect. A p2p-friendly NAT generally accepts incoming connections from IPs they have not had any interaction with previously."[59]

64. As demonstrated by this citation, while it is true that the BitTorrent protocol provides a "holepunch" feature, this mechanism is not always supported. Moreover, even when enabled, there is no guarantee that the requested connection will be successful. For example, in order to use the "holepunch" feature to communicate with a peer behind the firewall, the initial peer requires the assistance of a "relay" peer. However, if the initial peer selects a relay peer that is not already connected to the peer behind the firewall, the holepunch fails. This situation

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amount appears to be overstated; as I noted in my SJ Declaration (footnote 28), there are duplicates in the AWS billing data spreadsheet (Meta_Kadrey_00237299) for the April-July 2024 time period, in many cases having more than one line item corresponding to a single transmission or receipt of data. After deduplication, this data shows 134.6 TB of data downloaded from the Internet, and 40.42 TB of data uploaded to the Internet. I note that Meta has since produced a de-duplicated spreadsheet for this time period (Meta_Kadrey_00238140), which shows numbers that are consistent with the earlier spreadsheet.

[57] Choffnes Report, ¶¶8-11.

[58] RFC 3489, "STUN - Simple Traversal of User Datagram Protocol (UDP) Through Network Address Translators (NATs)", Internet Engineering Task Force, March 2003 at page 5.

[59] Choffnes Report, ¶11 footnote 3.